

**ATTY DOCKET NO. 5121**  
**METHODS OF TREATING DIABETES AND OTHER**  
**BLOOD SUGAR DISORDERS**

**ABSTRACT**

Evidence is emerging that lipid accumulation in the liver and the muscle contributes to insulin resistance in type II diabetes and the metabolic syndrome (1). This has prompted an investigation of the relationship between lipid accumulation in the liver, serum triglyceride levels, and glucose disposal. These studies demonstrate that liver fat positively correlated to fasting triglyceride levels and negatively correlated to glucose disposal (2). Therefore, strategies to prevent lipid accumulation in liver would have therapeutic value for treatment of type II diabetes, metabolic syndrome and non-alcoholic fatty liver disease. The invention described here relates to continuous administration of GLP-1 or its analogs obtained by either gene or cell therapy that results in reduction serum triglycerides and reduction of lipid accumulation in the liver for treatment of type II diabetes, the metabolic syndrome or non-alcoholic fatty liver disease.